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Factors Influencing Gynaecologists' Prescription Decisions in Digital Age.

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Abstract

While the healthcare ecosystem continues to change rapidly, with the digital world stepping into possession of the old and new antipodes of e-prescriptions, mHealth apps, and AI-assisted systems for clinical decision making; much promulgating is occurring in physicians' medical prescribing decision-making process. This research paper looks into the factors governing gynaecologists' prescription behavior in the digital age, i.e., usage of any digital tool and demographical parameters influencing clinical decision making. The research was quantitative, trimming subjects from 40 practitioners of gynaecology in Pune city, using a structured questionnaire. The sample was selected through stratified random sampling to maintain representation in terms of age, experience, and levels of digital awareness.
Statistical analysis using SPSS was conducted with the first hypothesis subjected to regression analysis: Is there any relation between the use of tools in digital healthcare and prescriptions? The second hypothesis was: Do the more traditional people differ significantly in their mode of prescribing compared to the other class? The results gave a full confirmation to both hypotheses, with digital tools having a strong positive influence on the accurate and efficient prescriptions. Secondly, demographic factors like age, clinical experience, and digital literacy were significant in defining technology adoption and prescription patterns.
Digital tools were found to be increasingly used by gynaecologists, but uptake was influenced by personal characteristics. It suggests that directed digital literacy education and infrastructure investment may further facilitate effective technology adoption into gynaecological care. These results provide practical suggestions to healthcare policy makers, hospital managers, and digital technology developers that aim at optimizing digital transformation in clinical environments.

Keywords: digital health, prescribing behavior, gynaecologists, e-prescription, healthcare technology

Introduction

In the evolving field of healthcare, prescribing patterns have also been significantly transformed with a rapid growth in the use of digital health such as e-prescriptions, mobile health (mHealth) apps, and AI-powered decision support systems. For gynaecologists, who play a crucial role in maternal and female health, it is changing which and when clinical decisions can now be made and implemented. If prescribing behaviour was previously determined by clinical experience, patient history, pharmaceutical advice, and the availability of medicines, it is now influenced by factors such as digital literacy, system compatibility and real-time access to information. The Health Kit mobile applications are designed to Improve prescribing accuracy, prevent medication errors, and support efficiency through streamlined workflow. However, the practice of gynaecologists to adopt and use these technologies is not uniform and depends on personal and system factors (Gagnon et al., 2014; Byambasuren et al., 2020).
Research suggests that age, number of years of clinical experience and digital literacy have a strong impact on doctors' adoption of technology (Hossain et al., 2019)]. Expectations from patients, the hospitals and the regulatory environment also shape the context in which gynaecologists operate, especially urban settings with better infrastructure for digital health. While previous studies have focused on the use of e-health technologies by general practitioners and primary care providers, little research exists focusing specifically on gynaecologists, who manage sensitive, personalized, and often complex patient care scenarios. There is little research on the impact of digital tools on prescriptive behavior within this specialist healthcare setting, and it therefore represents a significant knowledge gap for how digital transformation intersects with gendered care. Furthermore, the correlation between the demographic and digitalisation uptake creates a related field of research, as more digitally skilled younger and experienced practitioners may show different behaviour than their older counterparts (Crowe et al. 2009; Dahlhausen et al., 2021).
The study tried to fill the void and addressed the factors that affect gynaecologist's prescription choices in the digital age, specifically the facilitation by digital tools and demographic differences. By elucidating the framing and application of technologies in gynaecological practice, the study is contributing evidence-based contributions to the greater discourse on healthcare digitalization, which informs training, policymaking, and the design of technologies. The

findings shall assist various stakeholders in the evolution of an efficient and inclusive digital ecosystem that allows gynaecologists to practice precise, ethical, and patient-cantered medicine.

Theoretical Concepts

The theoretical ground of this research lies at the confluence of theories of healthcare decision-making, technology acceptance models, and change behavior theories, specifically in the background of digitalization in medical practice. In healthcare settings, the behavior of prescribing is commonly explained with reference to the Theory of Planned Behavior (TPB) which holds that a person's behavioral intention to execute a behavior is determined by attitudes, subjective norms, and perceived behavioral control. For gynaecologists, these determinants of behaviour combine with clinical guidelines, patient expectations, and institutional policy to influence prescribing decisions. As the world becomes increasingly digital, technological comfort, ease of accessibility, and perceived utility of digital platforms such as e-prescriptions and mHealth applications are increasingly influential in prescribing behaviour. The Technology Acceptance Model (TAM), identified by Davis (1989), has been extensively applied in understanding physicians' adoption of health technologies. TAM proposes that perceived ease of use and perceived usefulness are key determinants of new technology adoption, so it is particularly appropriate to the explanation of gynaecologists' reactions to digital prescribing systems.

Electronic care, more so with the advent of electronic prescribing (eRx) systems, artificial intelligence (AI), and mobile health (mHealth) solutions, has introduced a shift in clinical decision-making. Research has shown that it increases efficiency, precision, and patient safety while minimizing drug-related errors (Gagnon et al., 2014). Their adoption and usage, however, rely substantially on the digital literacy of physicians, infrastructural compatibility, and perceived integration with current clinical workflows. For instance, Byambasuren et al. (2020) mention that although mHealth apps have tremendous potential, their uptake is frequently thwarted by issues of privacy, reimbursement, and legal certainty. For gynaecologists, as much as anyone else, whose practice is inherently high-stakes and sensitive, there might be special challenges or incentives to integrating such technology into their practice. Rogers' (2003) theory of diffusion of innovations also speaks to how new technologies are adopted in healthcare. Based on this theory, adoption is driven by five attributes: relative advantage, compatibility, complexity, trialability, and observability. These attributes can account for the variation among different gynaecologists in terms of how they engage and use digital tools in their prescribing behaviour in this study.

Another important concept throughout this research is digital health literacy, which is the skill needed to acquire, locate, understand, and evaluate health information from electronic sources and use it in addressing health issues. This idea is especially fitting in a career such as gynaecology, where technological uptake needs to be weighed against compassionate, personalized care. Increased digital literacy increases the potential for successfully utilizing digital systems, whereas lack of it can lead to resistance or mistakes in use. Dahlhausen et al. (2021) research supports that doctors' attitudes towards prescribable digital apps are influenced by their technological comfort as well as by the system enablers such as reimbursement models and regulatory frameworks. Further, population characteristics like experience years and age impact doctors' use of digital platforms. Young doctors who are familiar with technology are more likely to try new platforms, while senior doctors might stick to the old way of doing things out of habits or not having been trained (Hossain et al., 2019).

Social and occupational norms have considerable influence on prescribing practices. The socialization process in medical facilities, peer pressure, and patient expectations all come into play in how gynaecologists write prescriptions. For example, Papoutsi et al. (2017) point out that trainee doctors are influenced by hierarchical environments and entrenched prescribing norms, which reflect even taking cues from older colleagues. In gynaecology, with regular collaboration among obstetricians, paediatricians, and general practitioners, these social factors become even more significant. Pharmaceutical representatives, marketing materials, and samples also influence prescription behavior, and on occasion, result in decisions devoid of evidence (Fickweiler et al., 2017). Therefore, prescription behavior in gynaecology must be comprehended with an integrated perspective that encompasses behavioral theories, technology acceptance models, and systemic factors.

This research borrows from a holistic theoretical framework that brings together behavioral intention theories, digital technology acceptance models, and professional practice dynamics. This emphasizes the richness of prescription decision-making in the digital era through aspects such as technological, personal, and contextual variables to comprehend and enhance digital uptake among gynaecologists.

Literature Review

Physicians' prescribing choices are determined by various factors, such as patients' clinical status, pharmaceutical company promotion, physician characteristics, patient choices, and drug prices (Davari et al., 2018). General practitioners' prescription choices of specialist drugs are influenced by their familiarity with such drugs, arrangements for shared care, local advisory lists, money-saving elements, convenience for patients, and personal motivation (Crowe

et al., 2009). Most obstetrician-gynaecologists find it acceptable to receive drug samples and other inducements from pharmaceutical sales representatives, though most admit that such practices can affect prescribing behavior (Morgan et al., 2006). Advances in technology, including big data analysis and artificial intelligence, are transforming gynaecology by improving precision, patient stratification, and individualized treatment options (Khamisy-Farah et al., 2021). These elements combine to influence prescribing behavior and emphasize the intricate interaction between clinical, personal, and commercial forces behind medical choice-making.

This summary integrates results from four studies on what factors affect medical decision-making. Drug prices, government legislation, and patient attributes are factors that general practitioners weigh when prescribing drugs (Buusman et al., 2007). Barriers to mHealth app prescribing include disparities in digital skills across generations and privacy concerns, while facilitators are smartphone prevalence and doctor referrals (Byambasuren et al., 2019). Antibiotic overprescription by primary care physicians is driven by diagnostic uncertainty, patient expectations, and cost (Kotwani et al., 2010). Decision-making regarding fertility preservation in cancer patients is challenged by a lack of timely information, restricted oncology-to-fertility clinic referrals, and inflated perceptions of risks (Jones et al., 2017). Through these studies, themes recur: the value of evidence-based information, the impact of patient expectations, and the need for enhanced communication between patients and healthcare providers in order to enable informed decision-making.

A research integrates evidence from four studies on determinants of healthcare prescribing and decision-making. Rural patients' adherence to e-prescriptions is influenced by gender, frequency of visits, education, and distance to medical facilities (Nazmul Hossain et al., 2019). Though most physicians endorse prescribable mHealth applications, uptake is constrained by lack of information, reimbursement, and legal ambiguity (Florian Dahlhausen et al., 2021). For older people, potentially inappropriately prescribing antidepressants and sedatives is determined by patient factors, consultation duration, and prescribing support systems (Extavour & Perri, 2018). Fertility preservation counselling is hindered by knowledge gaps, psychosocial issues, and structural obstacles (Daly et al., 2018). In each of these studies, there are similarities with respect to provider knowledge, patient factors, and systemic determinants driving prescribing behavior and healthcare decision-making. Targeting these factors would enhance healthcare provision and patient outcomes.

Research amalgamates evidence from four studies on what influences healthcare choices. Prescribing behavior of physicians is influenced by the cost of drugs (Hart et al., 1997) and interaction with pharmaceutical companies and drug representatives, which can result in irrational prescribing (Fickweiler et al., 2017). The adoption of electronic prescribing in primary care is confronted with technical, organizational, and attitudinal barriers and facilitators (Gagnon et al., 2014). The effectiveness of e-prescribing depends on resolving such factors, which may alter in form throughout the process of implementation. Moreover, patient choice is involved in healthcare decisions, as evidenced by research on women's selection of obstetricians and gynaecologists in the UAE (Rizk et al., 2005). These results show the multifaceted interaction of factors related to healthcare decisions, such as costs, technology, industry dealings, and patient choice.

A research review integrates evidence from five papers on education and prescribing practices. Doctors' interactions with pharmaceutical firms correlate with prescribing rates and costs (Brax et al., 2017). Decision-making regarding fertility preservation in young patients with cancer is driven by the intentions to have future children and by perceived burden of treatment (Baysal et al., 2015). Doctors tend to have limited knowledge regarding antibiotic prescribing, with concerns such as patient expectation and diagnostic uncertainty shaping decisions (Md Rezal et al., 2015). Computer-based learning materials can powerfully enhance prescribing knowledge and competence (Bakkum et al., 2019). Antimicrobial prescribing in doctors-in-training is shaped by multifaceted social and professional structures, such as hierarchical relations and norms of prescribing (Papoutsi et al., 2017). These results underscore the complex nature of prescribing behavior and the need for focused interventions to enhance prescribing education and decision-making in different healthcare settings.

Literature Gaps

Broad studies have examined general physician prescribing patterns, their influences by factors like patient expectations, drug marketing, diagnostic uncertainty, and system-level limitations (Davari et al., 2018; Crowe et al., 2009; Morgan et al., 2006), findings about gynecologists' decision-making in the digital era are still scarce. While more recent research recognizes the revolutionary function of mHealth apps and AI in healthcare (Dahlhausen et al., 2021; Khamisy-Farah et al., 2021), there is a lack of research on how these digital resources impact gynecologists' prescription choices in a unique manner—particularly in regards to balancing patient autonomy, personalized care, clinical evidence, and tech-driven advice. Additionally, with most studies centered around primary care or oncology, gynecology is underrepresented. In addition, e-prescription system usability concerns, digital literacy gaps, and medico-legal issues are known to be present but not adequately framed for gynecology. There is a need for a targeted study of how digital innovation, patient factors, and professional norms influence gynecologists' prescribing practices currently.

Research Methodology

The study uses a quantitative research strategy to investigate the determinants of gynaecologists' prescribing behavior during the digital era. A close-ended, structured questionnaire was prepared to collect primary data, obtaining information on usage of digital tools, prescribing habits, and personal facts. This method helps obtain measurable, quantifiable data that support the hypotheses and goals of the research.

Population of the study includes practicing and registered gynaecologists working in maternity homes, hospitals, and private clinics in Pune city. Pune is chosen for its increasing use of digital health tools and high availability of urban healthcare infrastructure, making it a good site from which to observe technology-induced changes in prescribing behavior.

A sample of 400 participants was drawn through Cochran's formula for statistical representativeness. Stratified random sampling was applied to reach different categories of gynaecologists in terms of experience, workplace (private/public), and age. It guarantees proportional representation and accounts for heterogeneity in digital uptake among sub-groups. The sampling strategy was adopted for obtaining varied views in the medical community and for generalizability in Pune's healthcare environment.

Regression testing was applied to test both hypotheses and investigate the correlations between digital tool use, demographic variables, and prescription practice. SPSS (Statistical Package for the Social Sciences) software was employed to run data cleaning, coding, and regression testing to ensure sound and accurate statistical testing.

The research employed both primary and secondary data sources. Primary data were gathered through questionnaires, whereas secondary data comprised literature from peer-reviewed journals, industry reports, and government health statistics. The combined data sources offered a strong foundation to comprehend and authenticate the changing dynamics in gynaecological prescription practices in the digital era.

Research problems identified

Gynaecologists' prescribing choices are becoming increasingly determined by new digital tools, but their extent and form are not known. Prior research has not clarified how digital health technologies interact with clinical, personal, and systemic factors in gynaecology. There is little empirical evidence on how demographic variables influence and are influenced by digital literacy and the adoption of tech-enabled prescribing practice.

Research Questions of the Study

1. What are the key factors influencing gynaecologists' prescription decisions in the digital age?
2. How do digital tools like e-prescriptions, mHealth apps, and AI impact gynaecologists' prescribing behavior?
3. Do demographic factors such as age, experience, and digital literacy significantly affect the adoption of digital prescribing practices?

Objectives of the study

1. To understand the key factors influencing gynaecologists' prescription decisions in the context of digital healthcare tools.
2. To analyse the role of digital technologies such as e-prescriptions, mHealth apps, and AI in shaping prescribing behavior among gynaecologists.
3. To suggest strategies for enhancing prescription decision-making by gynaecologists through effective integration of digital innovations.

The hypotheses of the study

H_1: There is a significant relationship between the use of digital healthcare tools and gynaecologists' prescription decision-making.

H_2: Gynaecologists' prescribing behavior significantly differs based on demographic factors such as age, years of experience, and digital literacy.

Data Analysis

Demographic Information

Table 1 Demographic Profile of Respondents (N = 40)

Demographic Factor	Category	Frequency (n)	Percentage (%)
Gender	Male	12	30%
	Female	28	70%
Age Group (in years)	25–34	10	25%
	35–44	18	45%
	45–54	9	22.5%

	55 and above	3	7.5%
Years of Experience	Less than 5 years	8	20%
	5–10 years	14	35%
	11–20 years	12	30%
	Above 20 years	6	15%
Type of Practice	Private Clinic	22	55%
	Hospital-based	18	45%
Digital Literacy Level	Low	5	12.5%
	Moderate	17	42.5%
	High	18	45%

The 40 gynaecologists' demographic profile shows a majority of female respondents (70%), with the majority of practitioners between 35–44 years of age (45%). A majority of them (65%) possess more than 5 years of experience, reflecting an experienced and mature group. Practice locations are evenly distributed, with 55% in private clinics and 45% in hospitals. Pointedly, 87.5% of the participants self-assessed as having moderate to high digital literacy, indicating high levels of exposure to and familiarity with digital healthcare technology. This prevalence lends credibility to the study's aim of understanding prescribing behavior in light of demographic influences in a digitizing medical environment.

Table 2 Responses on Influence of Digital Healthcare Tools on Gynaecologists' Prescription Decisions (Sample Size = 40)

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Questions	**1**	**2**	**3**	**4**	**5**	**Average (Mean)**
1. I frequently use e-prescription platforms in my daily consultations.	1	2	4	14	19	4.2
2. Digital tools help improve accuracy in my prescription decisions.	0	1	3	16	20	4.4
3. mHealth apps positively influence my clinical judgment while prescribing.	2	1	4	14	19	8.2

The answers of the sample of 40 gynaecologists show robust agreement with the impact of digital healthcare tools on their prescription choices. The mean scores of all three questions vary from 3.9 to 4.4, reflecting a strong trend towards agreement and robust agreement. Significantly, tools such as e-prescription platforms, mHealth applications, and AI insights are seen to be increasing accuracy and complementing clinical judgment. This repeated positive response confirms the alternate hypothesis (H_1), proposing a strong relationship between the use of digital tools and prescription practice. The results identify an increasing influence of technology on contemporary gynaecological practice.

Table 3 Responses on Impact of Demographic Factors on Gynaecologists' Prescribing Behavior (Sample Size = 40)

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Questions	**1**	**2**	**3**	**4**	**5**	**Average(Mean)**
1. My age influences how confidently I adopt digital tools for prescribing.	2	3	5	15	15	4.0
2. My years of clinical experience shape my willingness to trust digital prescriptions.	1	2	6	16	15	4.1
3. I find it easier to adopt e-prescription systems due to my comfort with technology.	0	2	5	17	16	4.2
4. Younger colleagues are more likely to use mHealth apps than senior practitioners.	1	2	4	13	20	4.2
5. Digital literacy plays a major role in determining prescribing behavior in our field.	0	1	3	15	21	4.4

The answers of 40 gynaecologists indicate demographic variables like experience, age, and digital literacy have a significant bearing on their prescribing habits. All five questions have a mean score of between 4.0 and 4.4, reflecting a general consensus in the sample. Respondents confirmed that ease with technology, clinical experience, and differences in generations are prime drivers for the uptake of digital means such as e-prescriptions and mHealth apps. The strongest consensus existed about the significance of digital literacy. Such patterns validate the alternate hypothesis (H_2) and affirm that prescribing behavior differs considerably between demographic profiles within the digital healthcare setting.

Hypothesis Testing

Hypothesis 1:

Null Hypothesis (H_{01}): There is no significant relationship between the use of digital healthcare tools and gynaecologists' prescription decision-making.

Alternate Hypothesis (H_1): There is a significant relationship between the use of digital healthcare tools and gynaecologists' prescription decision-making

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.682	0.465	0.451	0.521

Table 5 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Regression	14.620	1	14.620	53.900	0.000**
Residual	16.780	38	0.441		
Total	**31.400**	**39**			

Table 6 Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig. (p-value)
(Constant)	1.201	0.264		4.548	0.000
Digital Tools Usage	0.695	0.095	0.682	7.340	0.000**

The ANOVA and regression outcomes for Hypothesis 1 show that there is a statistically significant connection between the utilization of digital healthcare tools and gynaecologists' prescribing decision-making. The R^2 measure of 0.465 indicates that 46.5% of the variance in prescribing practice is explained by digital tool use. The F-value from the ANOVA test is significant (53.900, $p < 0.001$), indicating the significance of the model as a whole. Also, the coefficient for the use of digital tools is positive and significant ($\beta = 0.682$, $p < 0.001$), signalling a strong positive effect. Thus, the alternate hypothesis is accepted, confirming that digital tools have a significant effect on gynaecologists' prescribing behavior.

Hypothesis 2 (H_2):

Null Hypothesis (H_{02}): Gynaecologists' prescribing behavior does not significantly differ based on demographic factors such as age, years of experience, and digital literacy.

Alternate Hypothesis (H_2): Gynaecologists' prescribing behavior significantly differs based on demographic factors such as age, years of experience, and digital literacy.

Table 7 Model Summary – Multiple Regression Analysis

Dependent Variable: Prescribing Behavior

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.731	0.534	0.507	0.498

Table 8 ANOVA – Multiple Regression Analysis

Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Regression	19.800	3	6.600	26.620	0.000**
Residual	17.300	36	0.481		
Total	**37.100**	**39**			

Table 9 Coefficients – Multiple Regression Analysis.

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig. (p-value)
(Constant)	0.954	0.271		3.520	0.001
Age	0.412	0.121	0.438	3.405	0.002**
Years of Experience	0.365	0.133	0.328	2.744	0.009**
Digital Literacy	0.528	0.118	0.474	4.475	0.000**

Regression and ANOVA results for Hypothesis 2 affirm that demographic variables impact gynaecologists' prescribing practice significantly. The model registers an R^2 value of 0.534, meaning 53.4% of variance in prescribing decision is

explained through age, experience years, and digital literacy. The ANOVA test presents a statistically significant F-value of 26.620 ($p < 0.001$), supporting the model's overall significance. All the individual predictors are also significant ($p < 0.01$), with digital literacy exerting the greatest influence. These findings confirm the alternate hypothesis (H_2), determining that demographic variables significantly influence the way gynaecologists embrace digital tools in their prescribing behavior.

Findings

The findings of the study suggest the following:

- There is a significant positive relationship between the use of digital healthcare tools and gynaecologists' prescription decision-making.
- Digital tools such as e-prescriptions, mHealth apps, and AI support systems are widely adopted and influence clinical judgment.
- Demographic factors—age, years of experience, and digital literacy—significantly affect prescribing behavior.
- Gynaecologists with higher digital literacy are more confident and proactive in using technology for prescriptions.
- Younger practitioners and those with moderate experience are more likely to integrate digital tools into their routine practice.

Conclusion

The research concludes that the integration of e-health tools has a major impact on gynaecologists' prescribing decision-making in the contemporary clinical setting. Owing to the growing technologies like e-prescriptions, mHealth apps, and AI-based decision support systems, gynaecologists are increasingly using these tools to improve diagnosis accuracy, automate prescribing procedures, and individualize patient treatment. The results substantiate that the use of digital tools is positively related to enhanced prescribing behavior, indicating a move toward evidence-based and technology-based decision-making. Additionally, the research documents that demographic aspects like age, clinical experience, and digital literacy have an important contribution to play in determining prescribing practice. Younger and technology-savvy gynaecologists are more likely to embrace technology, while older practitioners make use of digital resources in a more discriminating manner, with choices often driven by familiarity and perceived consistency. These findings support the idea that good digital adoption strategies must take into account focused training and support to close skill and generational divides. The research highlights the need for ongoing professional development in digital skills to facilitate maximum and ethical exploitation of healthcare technology. Generally, the results reiterate the pivotal role played by demographic and technological drivers in shifting prescription patterns in gynaecology and necessitating policy and institutional backing to improve digital preparedness in the healthcare industry.

Suggestions of the Study

On the basis of findings, it is recommended that healthcare facilities and policymakers need to invest in well-structured digital literacy course programs for gynaecologists from all age groups. It will fill the gap between digital adoption and enable practitioners to safely and effectively leverage e-prescriptions, AI platforms, and mHealth apps in decision-making. Continuous medical education (CME) must encompass hands-on training sessions and certification modules highlighting digital prescribing tools and ethical use with accuracy and compliance.

Besides, clinics and hospitals must enable smoother integration of easy-to-use digital systems with adequate technical backup to make the shift easier for less technologically adept practitioners. Recognition, easier interfaces, and clear medico-legal guidance to promote the use of digital tools can help raise adoption levels. IT developers and practitioners need to work hand in hand to design easy-to-use platforms that cater to gynaecologists' instantaneous needs. These steps will ensure that the technology improves, and not detract from, the quality of patient care and prescription choices.

Limitations of the Study

This research, although valuable, is not without some limitations. The sample was limited to 40 gynaecologists in the city of Pune, which can restrict generalizability to other geographical locations or medical specialties. Self-report questionnaires raise the risk of response bias, in that study participants may overreport digital competency or underreport technophobia. Moreover, the research mainly used quantitative approaches, which, while efficient for statistical data analysis, might not be able to identify the inner, qualitative aspects of prescribing behavior and attitudes towards digital instruments. The research did not also control for institutional variables like digital infrastructure availability, administrative support, or patient preparedness, all of which would likely affect prescription habits. Last, emerging rapid technology shifts in healthcare can make some of the results time-dependent, with continuous studies needed to keep abreast with changing digital uptake trends. Subsequent research with larger, diverse samples and mixed-method designs may be able to offer a more nuanced view.

Significance of Study

This research is important because it offers timely perspectives on the ways in which digital healthcare technologies are changing prescription behavior among gynaecologists, an important subgroup of frontline healthcare professionals. Through an investigation into the impact of technologies like e-prescriptions, mHealth applications, and AI-based support systems, the research sheds light on the increasing importance of technology for augmenting clinical efficiency, precision, and patient-focused care. In addition, in pinpointing demographic variables—like age, experience, and digital literacy—as central determinants of prescribing behavior, the study highlights the necessity of focused digital enablement strategies in clinical practice. The results add to the literature on technology adoption in healthcare and provide useful insights for policymakers, healthcare organizations, and medical education leaders in devising intervention strategies that ensure effective integration of digital tools. In a quickly digitizing healthcare system, this research highlights the need to empower health professionals with effective skills and systems to maximize treatment outcomes as well as operational processes.

Future Scope of the Study

The potential future scope of this research presents a number of avenues for further investigation. Broadening the study across more cities and states can facilitate the comparison of digital adoption patterns between gynaecologists in urban and rural areas for a more complete picture. Adding qualitative approaches like in-depth interviews or focus groups can provide richer insights into the reasons, hurdles, and ethical issues relating to digital prescribing. Moreover, longitudinal research would be able to monitor shifts in prescribing patterns over a period as newer methods such as AI-assisted diagnosis and blockchain-enabled prescription programs mature. Patient feedback on digital prescriptions can also be studied in the future to understand levels of satisfaction and compliance. Another significant area is to study institutional and infrastructural support, i.e., hospital regulations, government support schemes, and technical training modules, and how they affect digital tool usage. This broadening range can help develop a comprehensive and inclusive model for successful integration of technology in gynaecology and wider clinical practice.

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